

### **Amendments to the Claims**

Please amend Claims 1, 4-7, 18, 20, 22-25, 34, 42-45, 54, and 62-65, and cancel Claims 3, 17, 21, 41, and 61, all as shown below.

1. (Currently Amended) An application program interface (API) embodied on one or more computer readable media, comprising:

a first group of services for integrating a plurality of content repositories into virtual content repositories (VCRs) such that ~~they~~ the plurality of content repositories appear and behave as a single content repository, wherein the first group of services include:[:]]

first functions for authorizing access to the plurality of content repositories;

second functions for incorporating combined content of the plurality of content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent information in the plurality of content repositories;

a second group of services for manipulating information in VCRs;

a third group of services for searching VCRs; and

a forth group of services for configuring VCRs;

wherein the application program interface is compatible with a content repository service provider interface (SPI).

2. (Original) The application program interface of claim 1 wherein:  
the SPI provides a subset of the services available in the API.

3. (Canceled).

4. (Currently Amended) The application program interface of claim ~~[[3]]~~ 1 wherein:  
authorizing access to the plurality of content repositories includes providing authentication information to the plurality of content repositories and receiving authentication results from the plurality of content repositories.

5. (Currently Amended) The application program interface of claim ~~[[3]]~~ 1 wherein:  
authorizing access to the plurality of content repositories utilizes Java Authentication and Authorization Service.

6. (Currently Amended) The application program interface of claim [[3]] 1 wherein:  
incorporating combined content of the plurality of content repositories into a hierarchical namespace includes representing the plurality of content repositories as nodes under a single VCR root node.
7. (Currently Amended) The application program interface of claim [[3]] 1 wherein:  
extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the API and the SPI.
8. (Withdrawn) The application program interface of claim 1, wherein the second group of services comprises:  
first functions that enable creation of information in VCRs;  
second functions that enable reading of information from VCRs;  
third functions that enable updating of information in VCRs;  
fourth functions that enable deleting of information in VCRs;  
wherein information in VCRs maps to information in one or more content repositories;  
and  
wherein information can be contents and/or schemas.
9. (Withdrawn) The application program interface of claim 1, wherein the third group of services comprises:  
first functions that enable searching content information in VCRs;  
second functions that enable searching schema information in VCRs; and  
third functions that enable configuring search result caches.
10. (Withdrawn) The application program interface of claim 9 wherein:  
searching content information in VCRs includes searching content repositories.
11. (Withdrawn) The application program interface of claim 9 wherein:  
searching schema information in VCRs includes searching content repositories.
12. (Withdrawn) The application program interface of claim 9 wherein:  
configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.

13. (Withdrawn) The application program interface of claim 1, wherein the fourth group of services comprises:

first functions that enable configuring repository caches; and

second functions that enable configuring authorization information for content repositories.

14. (Withdrawn) The application program interface of claim 13 wherein:

configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.

15. (Withdrawn) The application program interface of claim 13 wherein:

configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.

16. (Withdrawn) A network software architecture comprising the API as recited in claim 1.

17. (Canceled).

18. (Currently Amended) A software architecture for a distributed computing system, comprising:

a first application configured to handle requests provided to it by a second application over a network; and

an application program interface (API) to provide functions used by the first application to access a virtual content repository (VCR), wherein the API includes:

a first group of services for integrating a plurality of content repositories into virtual content repositories (VCRs), wherein the first group of services include:

first functions for authorizing access to the plurality of content repositories;

second functions for incorporating combined content of the plurality of content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent information in the plurality of content repositories;

a second group of services for manipulating information VCRs[.];

a third group of services for searching VCRs[.]; and

a forth group of services for configuring VCRs[.];

wherein the API is compatible with a content repository service provider interface

(SPI);

wherein the VCR integrates the plurality of content repositories such that they the plurality of content repositories appear and behave as a single content repository.

19. (Canceled).

20. (Currently Amended) The software architecture of claim [[20]] 18 wherein:  
the SPI provides a subset of the services available in the API.

21. (Canceled).

22. (Currently Amended) The software architecture of claim [[21]] 18 wherein:  
authorizing access to the plurality of content repositories includes providing authentication information to the plurality of content repositories and receiving authentication results from the plurality of content repositories.

23. (Currently Amended) The software architecture of claim [[21]] 18 wherein:  
authorizing access to the plurality of content repositories utilizes Java Authentication and Authorization Service.

24. (Currently Amended) The software architecture of claim [[21]] 18 wherein:  
incorporating combined content of the plurality of content repositories into a hierarchical namespace includes representing content repositories as nodes under a single VCR root node.

25. (Currently Amended) The application program interface of claim [[21]] 18 wherein:  
extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the API and the SPI.

26. (Withdrawn) The software architecture of claim 19 wherein the second group of services comprises:

- first functions that enable creation of information in VCRs;
- second functions that enable reading of information from VCRs;
- third functions that enable updating of information in VCRs;
- fourth functions that enable deleting of information in VCRs;
- wherein information in VCRs maps to information in one or more content repositories;

and

- wherein information can be contents and/or schemas.

27. (Withdrawn) The software architecture of claim 19 wherein the third group of services comprises:

- first functions that enable searching content information in VCRs;
- second functions that enable searching schema information in VCRs; and
- third functions that enable configuring search result caches.

28. (Withdrawn) The software architecture of claim 27 wherein:

- searching content information in VCRs includes searching content repositories.

29. (Withdrawn) The software architecture of claim 27 wherein:

- searching schema information in VCRs includes searching content repositories.

30. (Withdrawn) The software architecture of claim 27 wherein:

- configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.

31. (Withdrawn) The software architecture of claim 19, wherein the fourth group of services comprises:

- first functions that enable configuring repository caches; and
- second functions that enable configuring authorization information for content repositories.

32. (Withdrawn) The software architecture of claim 31 wherein:

configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.

33. (Withdrawn) The software architecture of claim 31 wherein:

configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.

34. (Currently Amended) A method for providing a virtual content repository (VCR) representing a plurality of content repositories such that they appear and behave as a single content repository, comprising:

providing an application program interface (API), wherein the API includes:

a first group of services for integrating the plurality of content repositories into the VCR, wherein the first group of services include:

first functions for authorizing access to the plurality of content  
repositories;

second functions for incorporating combined content of the plurality of  
content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent  
information in the plurality of content repositories;

a second group of services for manipulating information VCRs[.];

a third group of services for searching VCRs[.]; and

a forth group of services for configuring VCRs[.];

wherein the application program interface is compatible with a content repository service provider interface; and

providing a service provider interface (SPI) to be implemented by the plurality of content repositories;

wherein the API and the SPI are compatible and share a common content model and a common namespace.

35. (Original) The method of claim 34 wherein the content model includes:

a set of hierarchically related objects.

36. (Previously Presented) The method of claim 34 wherein the namespace makes addressable the content in the plurality of content repositories.
37. (Original) The method of claim 34 wherein the API includes: services for performing operations on the namespace and the content model.
38. (Previously Presented) The method of claim 34 wherein the SPI includes: services for merging contents of the plurality of content repositories into the namespace and the content model.
39. (Canceled).
40. (Previously Presented) The method of claim 34 wherein: the content repository service provider interface provides a subset of the services available in the application program interface.
41. (Canceled).
42. (Currently Amended) The method of claim [[41]] 34 wherein: authorizing access to the plurality of content repositories includes providing authentication information to the plurality of content repositories and receiving authentication results from the plurality of content repositories.
43. (Currently Amended) The method of claim [[41]] 34 wherein: authorizing access to the plurality of content repositories utilizes Java Authentication and Authorization Service.
44. (Currently Amended) The method of claim [[41]] 34 wherein: incorporating combined contents of the plurality of content repositories into a hierarchical namespace includes representing the plurality of content repositories as nodes under a single VCR root node.
45. (Currently Amended) The method of claim [[41]] 34 wherein:

extending a VCR content model to represent information in the plurality of content repositories includes sharing a common representation of content between the application program interface and the service provider interface.

46. (Withdrawn) The method of claim 39 wherein the second group of services comprises:  
first functions that enable creation of information in VCRs;  
second functions that enable reading of information from VCRs;  
third functions that enable updating of information in VCRs;  
fourth functions that enable deleting of information in VCRs;  
wherein information in VCRs maps to information in one or more content repositories;  
and  
wherein information can be contents and/or schemas.
47. (Withdrawn) The method of claim 39 wherein the third group of services comprises:  
first functions that enable searching content information in VCRs;  
second functions that enable searching schema information in VCRs; and  
third functions that enable configuring search result caches.
48. (Withdrawn) The method of claim 47 wherein:  
searching content information in VCRs includes searching content repositories.
49. (Withdrawn) The method of claim 47 wherein:  
searching schema information in VCRs includes searching content repositories.
50. (Withdrawn) The method of claim 47 wherein:  
configuring search result caches includes at least one of: 1) setting the time to live for cache entries; and 2) setting the maximum number of cache entries.
51. (Withdrawn) The method of claim 39 wherein the fourth group of services comprises:  
first functions that enable configuring repository caches; and  
second functions that enable configuring authorization information for content repositories.
52. (Withdrawn) The method of claim 51 wherein:



configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.

53. (Withdrawn) The method of claim 51 wherein:

configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.

54. (Currently Amended) A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

provide an application program interface (API), wherein the API includes:

a first group of services for integrating a plurality of content repositories into virtual content repositories (VCR) such that ~~they~~ the plurality of content repositories appear and behave as a single content repository, wherein the first group of services include:

first functions for authorizing access to the plurality of content

repositories;

second functions for incorporating combined content of the plurality of content repositories into a hierarchical namespace; and

third functions for extending a VCR content model to represent information in the plurality of content repositories;

a second group of services for manipulating information VCRs[.];

a third group of services for searching VCRs[.]; and

a forth group of services for configuring VCRs[.];

wherein the application program interface is compatible with a content repository service provider interface;

provide a service provider interface (SPI) to be implemented by a plurality of content repositories; and

wherein the API and the SPI are compatible and share a common content model and a common namespace.

55. (Original) The machine readable medium of claim 54 wherein the content model includes:

a set of hierarchically related objects.

56. (Previously Presented) The machine readable medium of claim 54 wherein:  
the namespace makes addressable the content in the plurality of content repositories.
57. (Original) The machine readable medium of claim 54 wherein the API includes:  
services for performing operations on the namespace and the content model.
58. (Previously Presented) The machine readable medium of claim 54 wherein the SPI  
includes:  
services for merging contents of the plurality of content repositories into the namespace  
and the content model.
59. (Canceled).
60. (Previously Presented) The machine readable medium of claim 54 wherein:  
the content repository service provider interface provides a subset of the services  
available in the application program interface.
61. (Canceled).
62. (Currently Amended) The machine readable medium of claim [[61]] 54 wherein:  
authorizing access to the plurality of content repositories includes providing  
authentication information to repositories and receiving authentication results from the plurality  
of content repositories.
63. (Currently Amended) The machine readable medium of claim [[61]] 54 wherein:  
authorizing access to the plurality of content repositories utilizes Java Authentication and  
Authorization Service.
64. (Currently Amended) The machine readable medium of claim [[61]] 54 wherein:  
incorporating combined content of the plurality of content repositories into a hierarchical  
namespace includes representing the plurality of content repositories as nodes under a single  
VCR root node.

65. (Currently Amended) The machine readable medium of claim [[61]] 54 wherein:  
extending a VCR content model to represent information in the plurality of content  
repositories includes sharing a common representation of content between the application  
program interface and the service provider interface.
66. (Withdrawn) The machine readable medium of claim 59 wherein the second group of  
services comprises:  
first functions that enable creation of information in VCRs;  
second functions that enable reading of information from VCRs;  
third functions that enable updating of information in VCRs;  
fourth functions that enable deleting of information in VCRs;  
wherein information in VCRs maps to information in one or more content repositories;  
and  
wherein information can be contents and/or schemas.
67. (Withdrawn) The machine readable medium of claim 59 wherein the third group of  
services comprises:  
first functions that enable searching content information in VCRs;  
second functions that enable searching schema information in VCRs; and  
third functions that enable configuring search result caches.
68. (Withdrawn) The machine readable medium of claim 67 wherein:  
searching content information in VCRs includes searching content repositories.
69. (Withdrawn) The machine readable medium of claim 67 wherein:  
searching schema information in VCRs includes searching content repositories.
70. (Withdrawn) The machine readable medium of claim 67 wherein:  
configuring search result caches includes at least one of: 1) setting the time to live for  
cache entries; and 2) setting the maximum number of cache entries.
71. (Withdrawn) The machine readable medium of claim 59 wherein the fourth group of  
services comprises:

first functions that enable configuring repository caches; and  
second functions that enable configuring authorization information for content repositories.

72. (Withdrawn) The machine readable medium of claim 71 wherein:  
configuring repository caches includes at least one of: 1) turning a cache on or off; 2) setting the maximum number of entries for a cache; and 3) setting the time to live for cache items.
73. (Withdrawn) The machine readable medium of claim 71 wherein:  
configuring authorization information for content repositories includes at least one of: 1) setting a password and user name for a repository; and 2) setting a read-only attribute for a repository.
74. (Canceled).